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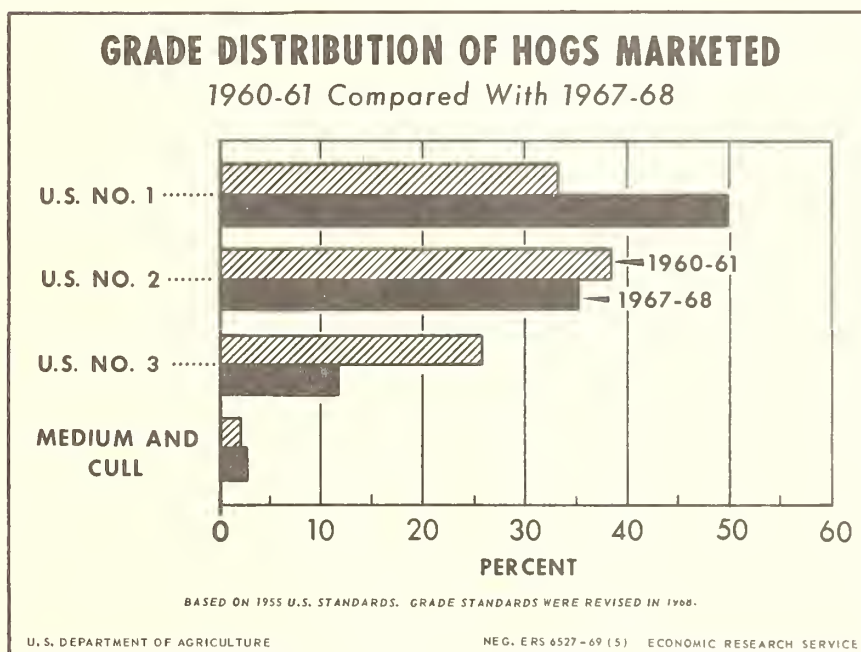
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## IMPROVEMENTS IN GRADES OF HOGS MARKETED



Farmers marketed a much higher percentage of top-grade hogs in 1967-68 than in 1960-61, based on a recent nationwide survey. In 1967-68, half of the barrows and gilts graded U.S. No. 1--the leanest category with ample meatiness and lean quality--up from a third in 1960-61. The percentage of U.S. No. 3 hogs--the fattest in relation to length--decreased from 26 percent to 12 percent. The marked increase in the proportion of top-grade hogs represents significant progress in tailoring the leanness of hogs to consumer preference for leaner pork.

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## IMPROVEMENTS IN GRADES OF HOGS MARKETED

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How much progress are U.S. farmers making toward furnishing consumers with the leaner pork they prefer? Considerable, according to recent studies by USDA. Since 1958, average lard yield per hog has decreased more than 25 percent, and cut-out tests show an increase in preferred lean cuts relative to carcass weights. However, cut-out tests do not represent all hogs marketed, and average lard yield per hog gives no inkling of the distribution of hogs among various grades. A better idea of overall improvement can be derived from detailed information on grades and measurements of butcher hogs--those being marketed for immediate slaughter and processing. Accurate data on changes in grade distribution of hogs can help guide further adjustments in breeding, feeding, and marketing practices.

USDA made a detailed study of the grades and measurements of hogs for a nationwide sample of meatpacking plants during four seasons of the year in 1967-68. Procedures were similar to those employed in a study made in 1960-61. The study covered close to one in every 1,000 hogs slaughtered in the United States. Samples were graded for 121 full-day kills in 56 federally inspected slaughtering plants throughout the United States. The sample was chosen to represent all hogs in all seasons and regions.

Results of the 1967-68 survey have been summarized and compared with the earlier survey in a recent publication. <sup>1/</sup> Some of the highlights from this study are presented here.

### More Hogs in the Higher Grades in 1967-68

Grade composition was determined and compared for about 57,000 barrows and gilts in 1967-68 and about 45,000 in 1960-61.

The grade composition of hogs marketed, based on these samples, is as follows:

Grade	: 1967-68	: 1960-61
	Pct.	Pct.
U.S. No. 1.....	49.9	33.4
U.S. No. 2.....	35.4	38.6
U.S. No. 3.....	11.9	25.9
Medium.....	2.6	2.0
Cull.....	.2	.1
Total.....	100.0	100.0

Grades of hogs marketed in the United States improved markedly during the 7-year period. In 1967-68, half of the barrows and gilts graded U.S. No. 1--the leanest category of hogs with ample meatiness and lean quality--compared with 33 percent in 1960-61. The percentage of U.S. No. 3 hogs--the fattest in relation to their length--decreased from about 26 percent to about 12 percent, or roughly the same percentage as the increase in the proportion of U.S. No. 1's. The proportion of U.S. No. 2's decreased slightly.

Comparison of the percentage distribution of hogs by length and backfat measurements showed that the increase in the proportion of leaner hogs extended well into each grade and was not limited to a slight improvement merely along the grade boundaries.

### More Hogs are Leaner in Relation to Length

Had the carcasses been assigned grades solely on the basis of backfat thickness in relation to length, the following distribution by grades would have resulted:

<sup>1/</sup> Improvement in Grades of Hogs Slaughtered, 1967-68 over 1960-61, Economic Research Service, USDA, MRR.-849, May 1969.

Grade	: 1967-68	: 1960-61
	Pct.	Pct.
U.S. No. 1.....	38.7	30.4
U.S. No. 2.....	37.6	38.3
U.S. No. 3.....	12.8	24.5
Medium.....	10.3	6.3
Cull.....	.6	.5
Total.....	100.0	100.0

When graded on the basis of objective factors only (i.e., the backfat thickness and carcass length), one-half the carcasses along the grade boundaries were allotted to each of the adjacent grades. The proportion of hogs that would have graded No. 1 on measurements alone increased substantially between the 2 periods.

In actual practice, the grader supplements these objective measurement guides for grade with subjective appraisal of relative meatiness and relative quality. Subjective appraisal is applied routinely to all carcasses with backfat thickness corresponding to a grade boundary and to those displaying an unusually high (or low) relative leanness for their measurements. Thus, a particular grade may include some carcasses from each of three measurement groups: Those within the defined length-backfat boundaries of the grade, those above the maximum backfat boundaries, and those below the minimum backfat boundaries.

#### Hogs are Meatier as Well as Leaner

For many hog carcasses, grades based merely on backfat thickness relative to length would understate differences in value due to variations in relative meatiness. Thus, grading procedures provide subjective standards to take account of degree of leanness and lean quality.

There was a substantial increase over 1960-61 results in the meatiness of barrows and gilts graded in the study. The proportion of all barrows and gilts qualifying for U.S. No. 1 and No. 2 grades solely on their objective measurements--backfat thickness in relation to length--increased from 68.7 percent in 1960-61 to 76.3 percent in 1967-68. Since the average weight and length of hogs marketed showed little change between the two surveys, the reduced backfat

thickness is further evidence of increased muscling. Thirteen percent of all barrows and gilts were rated as U.S. No. 1 or U.S. No. 2 based on superior meatiness and lean quality, compared with 6.6 percent in 1960-61. This was in addition to those qualifying on the basis of objective measurements. The proportion of barrows and gilts downgraded because of deficiencies in leanness or lean quality amounted to only 3.4 percent in 1967-68, a moderate decrease.

Changes in the relative meatiness of pork are most noticeable to consumers in the more popular cuts--loin, chops, ham, bacon, and picnics.

#### Grade Standards Revised for Hog Carcasses in 1968

Effective April 1, 1968, official U.S. standards for grades of barrow and gilt carcasses were revised. The principal change was the addition of a new U.S. No. 1 grade. This new grade includes high cutability carcasses that are thickly muscled with acceptable lean quality. These were formerly either No. 1 or Medium grades. Most of the carcasses that formerly qualified for the No. 1 grade are graded U.S. No. 2 under the revised standards, along with a small number that do not meet the minimum muscling requirements added for the No. 1 grade. Carcasses formerly in the U.S. No. 2 and No. 3 grades will, for the most part, be graded U.S. No. 3 and 4 under the revised standards. The Medium and Cull grades were combined and renamed U.S. Utility. This grade includes carcasses that do not meet the lean meat quality requirements of the four numbered grades.

Estimated distributions under the revised grades for the 1967-68 carcasses provide another indicator of the nature and degree of improvement in the quality of hogs marketed. Estimates of grade distribution according to the revised standards represent only an approximation since they were made from the graders' records rather than from visual ratings of the actual carcasses. In this procedure, the carcasses were distributed according to length and backfat measurements.



Grader notations were used in estimating the number to grade differently than indicated by objective measurements. This procedure yielded an estimate of approximate distribution of the barrow and gilt carcasses as follows: 2/

1968 standards

<u>Grade</u>	<u>Percent</u>
U.S. No. 1	8.1
U.S. No. 2	42.2
U.S. No. 3	35.7
U.S. No. 4	12.2
Utility	1.8

1955 standards

U.S. No. 1	49.2
U.S. No. 2	35.7
U.S. No. 3	12.2
Medium	2.7
Cull	.2

The market significance of the 1968 change in grade standards and designations

for barrows and gilt carcasses is that, as redefined, most of the total supply (about three-fourths) will fall into the two "middle" grades - U.S. No. 2 and U.S. No. 3--with a relatively smaller proportion falling in the top grade (No. 1) or overfinished (No. 4). This approximate distribution among grades shows better balance under the new standards than under the old. Thus, the new standards can contribute to improved efficiency and accuracy in buying, selling, and pricing transactions.

This study documents the degree of improvement in market quality of hogs over a 7-year period. It also provides useful benchmarks for future measures of additional improvement in grades as U.S. meatpackers, hog breeders, and feeders continue their efforts to tailor hogs more closely to consumer preferences for leaner pork.

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2/ This estimate provided by Livestock Division, Consumer and Marketing Service.



